TECHNICAL REFERENCE

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DC-100

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Regional Contacts

The address and phone number of the EVS headquarters are usually mentioned in the **Help > About** menu in the user interface.

You will find the full list of addresses and phone numbers of local offices either at the end of this user manual (for manuals on hardware products) or on the EVS website on the following page: http://www.evs.com/contacts.

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Table of Contents

1. Introduction

This document covers installation, configuration and administration tasks on the DC-100 hardware. This hardware is used as the Director's Cut gateway between the switcher and the IPDirector hardware. It allows IPDirector to speak one language that virtualizes any switcher protocol.

2. Installation

Warning

Do NOT apply AC voltage to power supply and then connect power supply to DC-100. Component damage may occur.

To install and cable the DC-100, proceed as follows:

1. Connect the Cat 5 cable to the DC-100 connector labeled “E-NET #1”.

   Connect the other end of the Cat 5 cable to the supplied Ethernet hub.
2. Connect the power supply’s round locking female connector to the DC-100 connector labeled “POWER”.
3. Connect the female side of the power cable to the supplied power supply.
4. Connect the male side of the power cable to AC voltage, 100 – 240.
5. Push DC-100 power switch, located on front panel, to ON position.
   - “O” on power switch is on OFF position.
   - The Front panel LEDs will flash during power up. After power-up and system initialization, the front panel LEDs will turn off and the front panel display will show Model Number and Software Version.
   - Allow 25 seconds for power-up and system initialization to complete.
   - LTC connector is required.

     Refer to the hardware specification section.
   - Serial Port connectors are required depending switcher and protocols.

     Refer to the system configuration section.
   - No connection is required for the REF VIDEO, DIAGNOSTIC or VGA.
6. (Optional) Connect wired D37 connectors to the DC-100 connector labeled “GPI 1-16” and/or “GPI 17-32” to the switcher.

   Refer to the hardware specification section.

3. Network Configuration

Network configuration is required before system configuration.

3.1 Setting up the IP Address

1. On the DC-100 front panel, use the ↑↓ keys to select “Current IP”.
2. Press **ENTER**.

   The display will show the current IP address with the cursor in the far left column.
3. Use the ↑↓ keys to change the numbers.
4. Use the ← → keys to move the cursor position.
5. Press **ENTER** to save the new IP address, or press **ESC** to exit without saving.

Note

The new IP address will take effect on the next power-up.

3.2 Setting up the Subnet Mask

1. On the DC-100 front panel, use the ↑↓ keys to select “Current Mask”.
2. Press **ENTER**.

   The display will show the current subnet mask with the cursor in the far left column.
3. Use the ↑↓ keys to change the numbers.
4. Use the ← → keys to move the cursor position.
5. Press **ENTER** to save the new subnet mask, or press **ESC** to exit without saving.

Note

The new subnet mask will take effect on the next power-up.

3.3 Setting up the Gateway Address

1. On the DC-100 front panel, use the ↑↓ keys to select “Current Gateway”.
2. Press **ENTER**.

   The display will show the current gateway address with the cursor in the far left column.
3. Use the ↑↓ keys to change the numbers.
4. Use ← → keys to move the cursor position.
5. Press **ENTER** to save new gateway address, or press **ESC** to exit without saving.

Note

The new gateway address will take effect on the next power-up.

3.4 Ethernet Link Speed Setup

1. On the DC-100 front panel, use the ↑↓ keys to select “Ethernet Status”.
2. Press **ENTER**. The display will show current the speed selection.
3. Use the ↑↓ keys to change the selection.
4. Select **AUTO** to use the highest available speed.
5. Select **10Mbs** for long Ethernet cable runs.
6. Press **ENTER** to save new Ethernet link speed, or press **ESC** to exit without saving.

Note

The new Ethernet speed selection will take effect immediately.

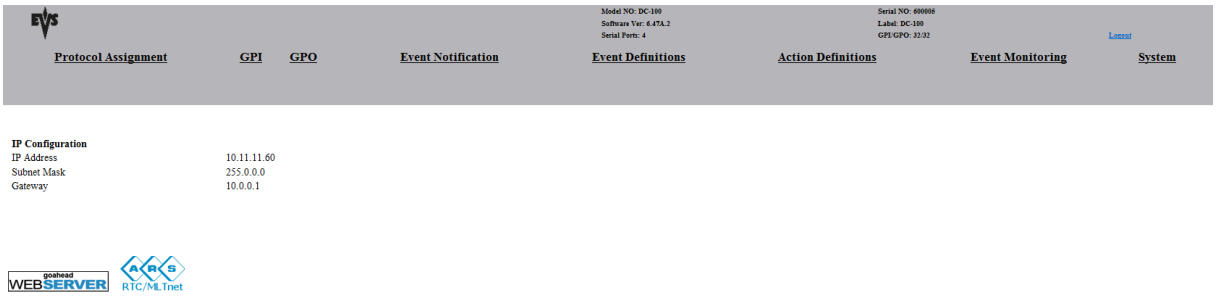
4. System Configuration

4.1 Introduction

System configuration is required after network configuration.

The setup is performed using a computer running an off-the-shelf web browser such as Internet Explorer or Firefox. Connect the CAT5 cable from the computer to the same Ethernet switch to which the DC-100 is connected.

After launching the web browser, enter the IP address of the DC-100 to be configured. The DC-100 Home Page will be displayed:



4.2 Switcher Protocol Configuration

4.2.1 Introduction

Depending on the switcher model, one or several serial protocols need to be assigned to physical serial port(s) of the DC-100.

Once a protocol is assigned, it will be configured using the default settings which are normally correct.

Configuring the switcher protocol is only necessary if the production switcher does not use its default serial configuration for baud rate, parity, number of character bits or number of stop bits. In this case, refer to the section Serial port advanced configuration.

Once a protocol is assigned, it will automatically try to connect to the device on the port it is connected to, and it will manage all communication automatically.

No additional steps are required.

An additional Ethernet XML protocol needs to be assigned for the DC-100 to be able to communicate with EVS software (ex: IPDirector Director's Cut Gateway service).

It will notify the EVS software of a change of source on the switcher's program bus.

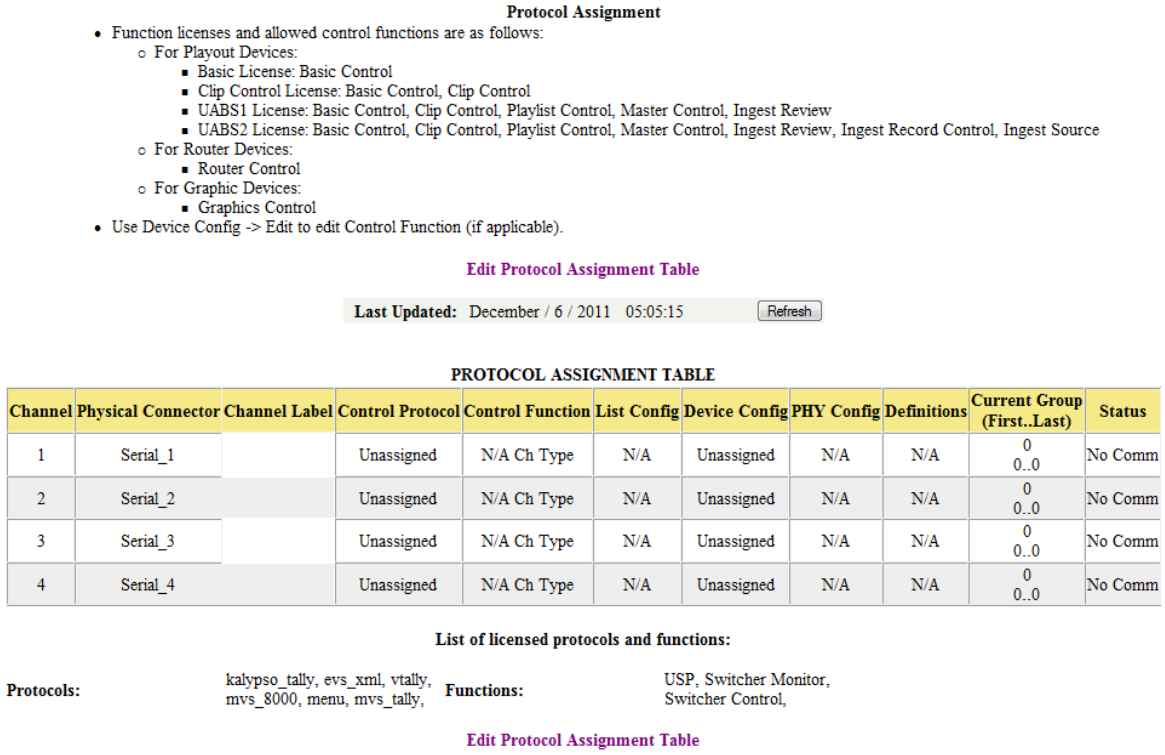
Each notification will include all video sources currently selected on the program bus and a time stamp of when the change was reported by the production switcher.

4.2.2 EVS XML Protocol

To assign the EVS XML protocol using the web browser, proceed as follows:

1. From the DC-100 Home Page, click the **Protocol Assignment** link.

   The following information is displayed:



Protocol Assignment

- Function licenses and allowed control functions are as follows:
  - For Playout Devices:
    - Basic License: Basic Control
    - Clip Control License: Basic Control, Clip Control
    - UABS1 License: Basic Control, Clip Control, Playlist Control, Master Control, Ingest Review
    - UABS2 License: Basic Control, Clip Control, Playlist Control, Master Control, Ingest Review, Ingest Record Control, Ingest Source
  - For Router Devices:
    - Router Control
  - For Graphic Devices:
    - Graphics Control
- Use Device Config -> Edit to edit Control Function (if applicable).

Edit Protocol Assignment Table

Last Updated: December / 6 / 2011 05:05:15 Refresh

PROTOCOL ASSIGNMENT TABLE

Channel	Physical Connector	Channel Label	Control Protocol	Control Function	List Config	Device Config	PHY Config	Definitions	Current Group (First..Last)	Status
1	Serial_1		Unassigned	N/A Ch Type	N/A	Unassigned	N/A	N/A	0 0..0	No Comm
2	Serial_2		Unassigned	N/A Ch Type	N/A	Unassigned	N/A	N/A	0 0..0	No Comm
3	Serial_3		Unassigned	N/A Ch Type	N/A	Unassigned	N/A	N/A	0 0..0	No Comm
4	Serial_4		Unassigned	N/A Ch Type	N/A	Unassigned	N/A	N/A	0 0..0	No Comm

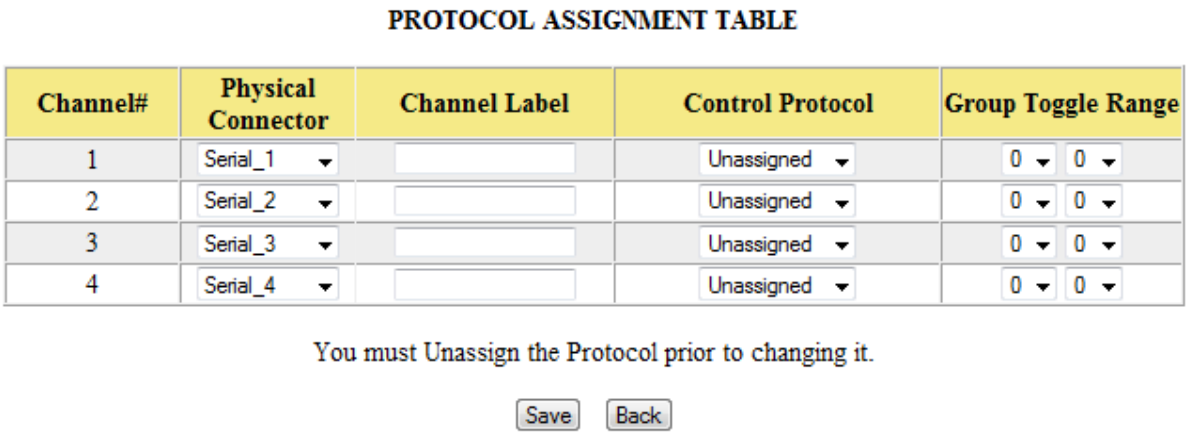
List of licensed protocols and functions:

Protocols: kalypso_tally, evs_xml, vtally, mvs_8000, menu, mvs_tally, **Functions:** USP, Switcher Monitor, Switcher Control,

Edit Protocol Assignment Table

2. Click the **Edit Protocol Assignment Table** link.

   The Protocol Assignment table opens in edit mode:



PROTOCOL ASSIGNMENT TABLE

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1		Unassigned	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Serial_4		Unassigned	0 0

You must Unassign the Protocol prior to changing it.

Save Back

3. On Channel #4 line, select “Ethernet_1” in the Physical Connector column.
4. On Channel #4 line, select “evs_xml” in the Control Protocol column.

5. (Optional) On Channel #4 line, edit **Channel Label** field as “EVS XML”.

4	Ethernet_1	EVS XML	evs_xml	0 0

6. Refer to next sections to select serial protocol according the switcher model.

4.2.3 Sony™ MVS

To assign and configure the protocol using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial_1” in the Physical Connector column.
4. On Channel #1 line, select “mvs_tally” in the Control Protocol column.
5. (Optional) On Channel #1 line, edit Channel Label column field as “MVS TALLY”.

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1	MVS TALLY	mvs_tally	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

6. Click the **Save** button.
7. Reboot the DC-100.

On MVS Setup page 7333 (Switcher – Ouput):

Identify the output number to be attached to the serial tally.

Ex: Out# 1 for P/P PGM1

On MVS Setup page 7361 (Router/Tally - Router):

Identify the source and destination number for the matrix.

Ensure the output number to be attached to the serial tally must not be adjusted according the matrix.

On MVS Setup page 7364 (Router/Tally - Tally Enable):

If not existing, ensure to create a new entry that links the desired output number to a enabled tally type.

Ex: OUT001 link to R1

On MVS Setup page 7367 (Router/Tally – Serial Tally):

Select the Serial Tally Port and activate the corresponding tally group and type to be used.

Ex: SCU Editor Panel Port assigned to R1

When using SCU Editor Port, ensure on page 7325 (Panel – Device Interface) that the “Editor Port Assign” is set to “Serial Tally”.

4.2.4 Snell™ Kahuna

To assign and configure the protocol for the Snell™ Kahuna switcher using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial _1” in the Physical Connector column.
4. On Channel #1 line, select “kalypso_tally” in the Control Protocol column.
5. (optional) On Channel #1 line, edit Channel Label column field as “KALYPSO”.
6. On Channel #2 line, select “Serial _2” in the Physical Connector column.
7. On Channel #2 line, select “mvs_8000” in the Control Protocol column.
8. (Optional) On Channel #2 line, edit Channel Label column field as “MVS 8000”.

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1	KALYPSO	kalypso_tally	0 0
2	Serial_2	MVS 8000	mvs_8000	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

9. Click the **Save** button.
10. Reboot the DC-100.

Known Issues:

The Snell Kahuna uses kalypso_tally protocol and mvs_8000 protocol. The kalypso_tally protocol is used to receive tally information for what is on the Program bus. The mvs_8000 protocol is used to receive information about transitions from the switcher.

In order for kalypso_tally protocol to report what is on the P/P Program bus to EVS_XML, output #1 must be used. Output #1 is the default P/P Program bus within the Kahuna switcher. The protocol assumes that output #1 is the P/P Program bus, and will not report tally information for any other outputs.

At this time, the Snell Kahuna does not report information about transitions or keyers to the mvs_8000 protocol. This is an issue with the Kahuna itself, and not with the protocol or the DC-100.

Kahuna 360

On the peripherals menu, the “Extension Enable“ needs to be set to OFF.

The 360 is different than the normal Kahuna as it can link any ME to any Output;

the highest ME has to be linked to the output 1 for the tally to react.

4.2.5 Grass Valley™ Kayak

To assign and configure the protocol for the Grass Valley™ Kayak switcher using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial_1” in the Physical Connector column.
4. On Channel #1 line, select “gv_acos” in the Control Protocol column.
5. (optional) On Channel #1 line, edit Channel Label column field as “GV ACOS”.

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1	GV ACOS	gv_acos	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

6. Click the **Save** button.
7. Reboot the DC-100.

4.2.6 Grass Valley™ Kalypso

To assign and configure the protocol for the Grass Valley™ Kalypso switcher using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial_1” in the Physical Connector column.
4. On Channel #1 line, select “kalypso_tally” in the Control Protocol column
5. (optional) On Channel #1 line, edit Channel Label column field as “KALYPSO”

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1	KALYPSO	kalypso_tally	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

6. Click the **Save** button.
7. Reboot the DC-100.

Known Issues:

Kalypso

The Grass Valley Kalypso uses kalypso_tally protocol. This protocol is used to receive tally information for what is on the Program bus.

In order for kalypso_tally protocol to report what is on the P/P Program bus to EVS_XML, output #1 must be used. Output #1 is the default P/P Program bus within the Kalypso switcher. The protocol assumes that output #1 is the P/P Program bus, and will not report tally information for any other outputs.

The kalypso_tally protocol does not support the ability to receive information about transitions. Because only kalypso_tally protocol is supported on the Kalypso switcher, this information is unavailable.

4.2.7 Ross Video™ Vision

To assign and configure the protocol for the Ross Video™ Vision switcher using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial_1” in the Physical Connector column.
4. On Channel #1 line, select “kalypso_tally” in the Control Protocol column
5. (optional) On Channel #1 line, edit Channel Label column field as “ROSS”

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1		kalypso_tally	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

6. Click the **Save** button.
7. Reboot the DC-100.

4.2.8 Grass Valley™ Kayenne/Karrera

To assign and configure the protocol for the Grass Valley™ Kayenne/Karrera switcher using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial_1” in the Physical Connector column.
4. On Channel #1 line, select “kayenne_tally” in the Control Protocol column
5. (optional) On Channel #1 line, edit Channel Label column field as “KAYENNE”

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1	KAYENNE	Kayenne_tally	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

6. Click the **Save** button.
7. Reboot the DC-100.

Known Issues:

Kayenne

The Grass Valley Kayenne uses kalypso_tally protocol. This protocol is used to receive tally information for what is on the Program bus.

The kalypso_tally protocol does not support the ability to receive information about transitions. Because only kalypso_tally protocol is supported on the Kalypso switcher, this information is unavailable.

4.2.9 GPI

To configure the GPI using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.
2. Click on **Edit Protocol Assignment Table** link.
3. On Channel #1 line, select “Serial_1” in the Physical Connector column.
4. On Channel #1 line, select “vtally” in the Control Protocol column
5. (optional) On Channel #1 line, edit “Channel Label” column field as “GPI V TALLY”

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range
1	Serial_1	GPI V TALLY	vtally	0 0
2	Serial_2		Unassigned	0 0
3	Serial_3		Unassigned	0 0
4	Ethernet_1	EVS XML	evs_xml	0 0

6. Click the **Save** button.
7. Reboot the DC-100.

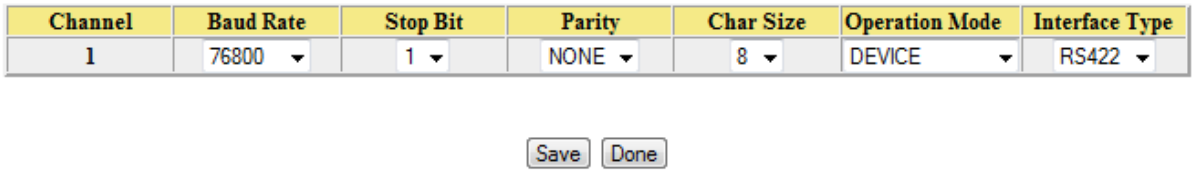
4.3 Serial Port Advanced Configuration

To define advanced settings on serial ports using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **Protocol Assignment** link.

Channel	Physical Connector	Channel Label	Control Protocol	Control Function	List Config	Device Config	PHY Config	Definitions	Current Group (First..Last)	Status
1	Serial_1	KALYPSO	kalypso_tally	Switcher Monitor and Control	N/A	N/A	View Edit	Monitor Control	0 0..0	No Comm
2	Serial_2		Unassigned	N/A Ch Type	N/A	Unassigned	N/A	N/A	0 0..0	No Comm
3	Serial_3		Unassigned	N/A Ch Type	N/A	Unassigned	N/A	N/A	0 0..0	No Comm
4	Ethernet_1	EVS XML	evs_xml	N/A Ch Type	N/A	N/A	N/A	Notifications	0 0..0	No Comm

2. On the channel line that requires specific serial port settings, click **Edit** on the PHY configuration column.



3. Change the requested specific settings.
4. Click **Save** to save the entered date and time.

   OR
5. Click **Cancel** to exit without saving.

4.4 Serial Connection Check

When the connection and protocol between the DC100 and the switcher is successful, the status column display “Connected” otherwise the status column display “No Comm”.

If the connection is not properly established, this could be either a wrong protocol assignment (§4.2) or a wrong serial port configuration (§4.3).

5. Advanced System Configuration

This chapter lists advanced system configuration that is not mandatory for a normal usage.

5.1 Setting the Password

The default password, when shipped from the factory, is “controls” in lower case.

The password is used to access all configuration screens.

EVS does not advise to change the password in case remote or local assistance is needed.

To modify the password using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **System Assignment** link.

   The System page is displayed.
2. Click on **Set Admin Password**.

   The Set Password page will be displayed.
3. In the **Old password** entry box, type the current password.

> **Note**
>
> When shipped from the factory, the default password is “controls”, in lower case.

4. Enter the new password in the **New Password** entry box.
5. Enter the new password in the **Verify New Password** entry box.
6. Click **Save** to save the new password, or **Cancel** to exit without changing passwords.

> **Note**
>
> If the “New Password” entry and the “Verify New Password” entry do not match, an error will be displayed.

5.2 Setting the System Label

The System Label is used to uniquely identify a DC-100. This name is associated to the IP address.

To modify the system label using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **System Assignment** link.

   The System page is displayed.
2. Click on **Set System Label**.

   The Set System Label page is displayed.

3. Enter any name made up of letters, numbers, or special characters, up to 16 characters.
4. Click **Save** to save the name entered in the former step

   OR
5. Click **Cancel** to exit without changing the system label.

5.3 Setting the System Time

The system time is only used for error logging; it is not used to process switcher and GPIs.

To modify the system label using the web browser, proceed as follows:

1. From the DC-100 Home Page, click on the **System Assignment** link.

   The System page is displayed.
2. Click on **Set System Time**. The Set System Time page is displayed.
3. Using the drop-down menus, set the current date and time.
4. Click **Save** to save the entered date and time.

   OR
5. Click **Cancel** to exit without saving.

6. Firmware Upgrade

6.1 Prerequisites

The firmware upgrade is performed via FTP. Read the following information carefully before proceeding to the upgrade:

- To upgrade the DC-100, it is necessary to copy the upgrade file (system.tar) into the root directory of the flash card inside the DC-100 unit. This can easily be done using the FTP program provided with the windows operating system. This is only available with a Microsoft™ windows operating system.
- Connect a computer to the DC-100 unit through the Ethernet connector “E-NET #1”.
- Make sure the system.tar file is not read-Only. When this file is copied to the unit, it will be deleted after the extraction. Therefore it needs to be writable.

6.2 Procedure

To upgrade the firmware via FTP, proceed as follows:

1. Save the system.tar file to the C: drive root directory on the computer that will be used to upload the file to the DC-100.
2. Copy the system.tar file via Microsoft Windows FTP.
3. Click **Start**, then **Run**, then type “CMD” in the run box.
4. Click **OK**. This will open a DOS Command prompt window.
5. Change the directory to where the system.tar file resides, that means on the C: drive root:
   a. Type “C:” Press **Enter**.
   b. Type “cd\”, Press **Enter**.
6. Type “ftp XXX.XXX.XXX.XXX”, Press **Enter**

   (XXX.XXX.XXX.XXX = IP address of DC-100)
7. Type “dnfuser” as user, then press **Enter**.
8. Type “st5controls”, then press **Enter**.
9. Type “bin” , then press **Enter**.
10. Type “cd /ata0/ (ataZERO), then press **Enter**.
11. Type “put system.tar”, then press **Enter**.

    The front panel COM1 LED will flash rapidly.
    After the transfer is complete, check that the file was copied.
12. Type “dir”, then press **Enter**.

    Check to see that the filename “system.tar” exists.
13. Type “quit”, then press **Enter**.
14. Type “exit”, then press **Enter**.

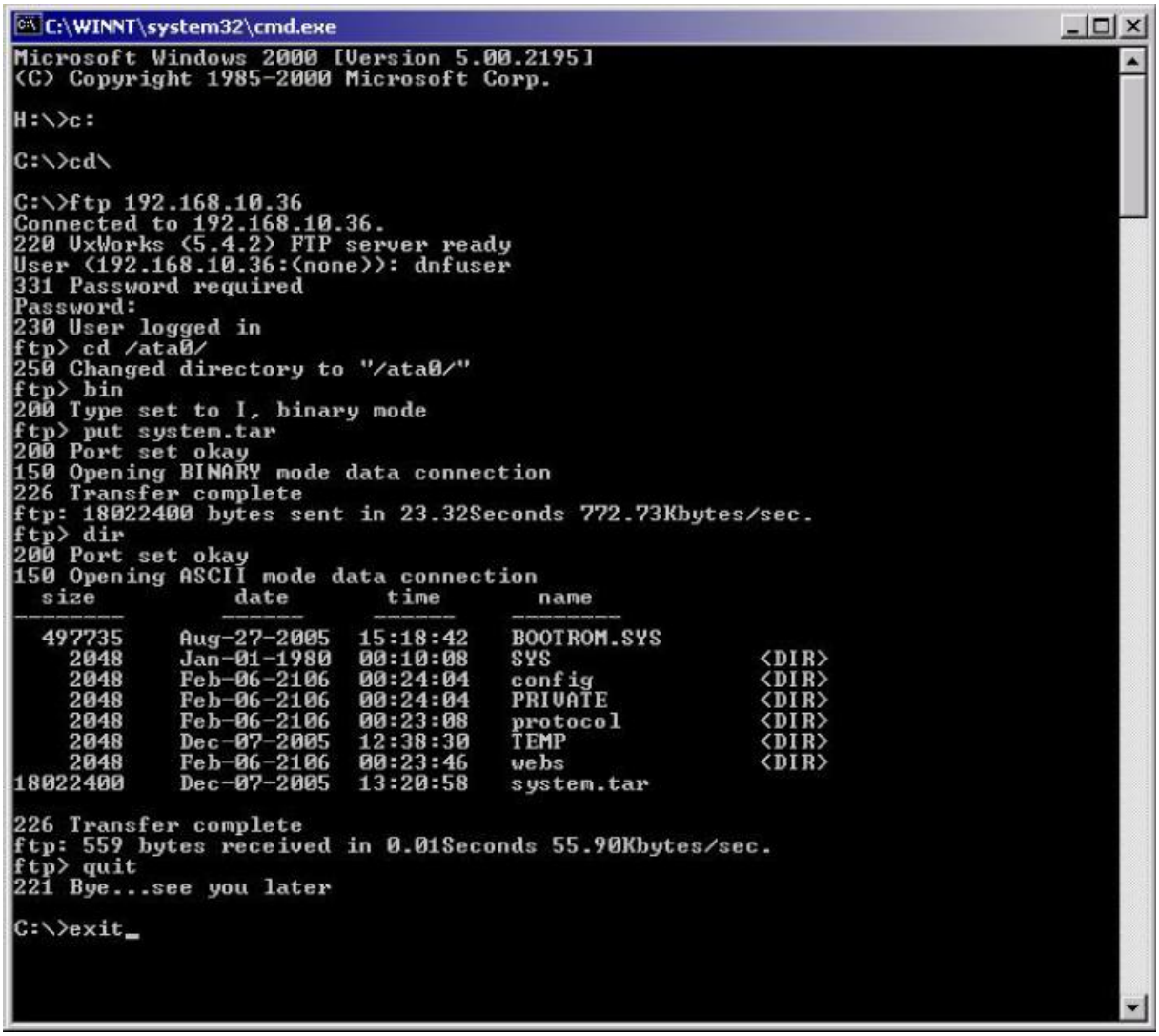
After the system.tar is copied to the DC-100's Compact Flash disk, reboot the DC-100.

When the DC-100 comes up, it will detect the presence of the system.tar, extract the files, and reboot itself (again) automatically.

After automatic reboot, the system will be fully operational; no existing configuration files will be modified or deleted.

In the rare occasions of the DC-100 not rebooting automatically, after 5 minutes, manually power cycle the unit. It will restart the system normally with the new upgraded files.

6.3 Illustrated Procedure



6.4 FPGA Upgrade Procedure

Note

This procedure must only be applied at EVS request, as a FPGA upgrade is not a usual process.

1. On your computer, open your browser, and go to **Error! Hyperlink reference not valid.** IP address>/cgi-bin/fpga_upgrade.cgi.

   The login name is **admin**, and the password is **controls**.

2. Open a DOS command prompt, and navigate to the location where you saved the software.
3. Enter **FTP <DC100's IP address>** and then press ENTER to FTP into the DC100. The login name is **dnfuser**, and the password is **st5controls**.
4. Enter the following commands and press **ENTER** after each entry:

   a) Bin

   b) Cd /ata0/webs/hw/fpga/

   c) Put <Firmware file name, i.e. SerIntfMod_9-10.bit)

5. Once the transfer completes, type **quit** or close the window to quit the FTP session.
6. Refresh the webpage previously opened in Step 2.

   The file uploaded should be displayed.

7. Select the radio button next to it, and press **Install**.
8. When asked for confirmation, confirm that the correct filename is shown, and press **Yes**.
9. Once the installation process completes (reaches 100%), the webpage will return to the file select web page. At this point, power cycle the unit. **DO NOT POWER CYCLE THE UNIT UNTIL THE FILE SELECT PAGE HAS COMPLETELY LOADED.**
10. Follow step 1 to navigate to the FPGA upgrade webpage. Do NOT refresh web page (some browsers will cause the FPGA install to repeat).

    Confirm that the Current Version displayed in the upper right hand corner shows the newly installed version.

7. Event Logging

7.1 Overview

Event logging allows the DC-100 to log events, actions, and diagnostic information into a log file on the DC-100. For each event/action, the Event/Action label, current state, and the system date and time will be saved into the log file. If the LTC time code option is installed, the “House System Time” will also be saved.

The DC-100 will maintain log files for 7 days. At midnight, based upon the DC-100’s internal clock, the logging will continue in the next day’s file. On the 8th day, the oldest log file will be deleted and replaced with a new empty file.

The DC-100 will hold anywhere from 4 – 12 log files per day. The first log file for each day is named “elog-xxx-0.txt” where “xxx” is the day of the week. When a log files reaches the maximum number of events, it will create another log file for that day using the same naming scheme, and increment the number at the end of the file name by 1. (elog-xxx-1.txt, elog-xxx-2.txt, etc.) If the number of logged events for a day exceeds this maximum number, the oldest log file for that day will be overwritten with the new events.

The data in the log file will be in a standard text document, (.txt file). This file can be uploaded to a PC and viewed with any text editing program or word processor. It can also be imported into a spreadsheet or database program for viewing or statistical analysis. There is no user intervention necessary to start the logging feature, it is always active.

7.2 Viewing and Saving Log Files

To view and save log files, proceed as follows:

1. Click on the **System** link near the top of the page.
2. Click on the **System Maintenance** link.
3. Click on the **View Event Logs** link.

   The Current Log tag indicates which log file is currently in use and contains the most recent log messages.
4. To view a log, click on the link for that log file. The selected file will be opened within the browser.
5. To save a log to your computer, right click on the link for that log file and select **Save Link As**.

7.3 Deleting Log Files

To delete log files, proceed as follows:

1. Click on the **System** link near the top of the page.
2. Click on the **System Maintenance** link.
3. Click on the **View Event Logs** link.
4. Using the checkboxes to the left hand side, select the event logs to be deleted, then click the **Clear Log** button, or click the **Clear All Logs** button to delete all logs currently on the DC-100.

5. A confirmation prompt will be displayed: press **Confirm** to delete the selected logs, or click **Back** to return to the Remote Event Definitions table.

7.4 Changing Maximum Number of Log Files per Day

To change the maximum number of log files per day, proceed as follows:

1. Click on the **System** link near the top of the page.
2. Click on the **System Maintenance** link.
3. Click on the **View Event Logs** link.

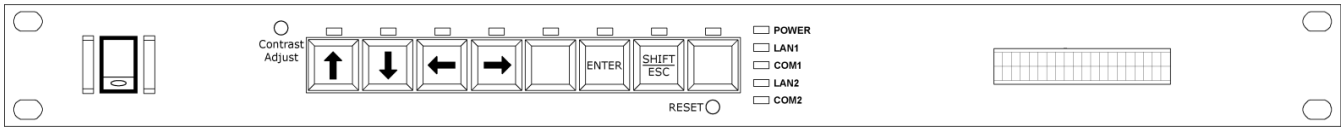
   The fifth bullet point displays the current number of available log files per day.
4. To modify this setting, click on the link to the right of the current number of available log files per day.
5. In the text field, enter how many log files per day are desired. The minimum amount of log files per day is 4. The maximum amount of log files per day is 12.
6. Click the **Set** button to save the entered changes.

Note

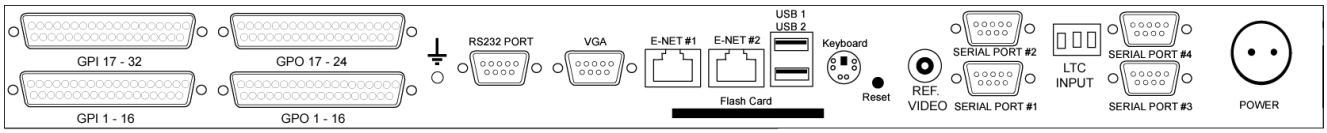
This setting change does not take effect until the unit is rebooted.

8. Hardware Specifications

8.1 Front Panel



8.2 Rear Panel



8.3 Specifications

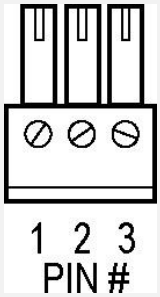
8.3.1 Hardware Specifications

This following table provides general hardware specifications

Title	Description
Power	100 VAC - 240 VAC power supply, Phihong PSAA60M, supplied with IEC connector
Size	1RU: 1 3/4 inch x 19 inch x 8 1/2 inch (H.W.D.)
Weight	7 lbs
Front Panel Display	2 line x 16 character
Front Panel Keyboard	8 keys with LEDs

8.3.2 Connectivity

The following table provides specifications on the connectors available on the backplane:

<table>
<tr><th>Title</th><th>Description</th></tr>
<tr><td>E – Net #1</td><td>RJ45 Connector</td></tr>
<tr><td>E – Net #2</td><td>RJ45 Connector (Not Used)</td></tr>
<tr><td>Serial Port #1</td><td>9-PIN Female (D9F)</td></tr>
<tr><td>Serial Port #2</td><td>9-PIN Female (D9F)</td></tr>
<tr><td>LTC Input</td><td>3-pin Phoenix Connector
Pin-out for Balanced LTC:
Pin 1 = LTC HI
Pin 2 = LTC LOW
Pin 3 = Common/Shield
Pin-out for Unbalanced LTC:
Pin 1 = LTC HI
Pin 2 = Tie to Pin 3
Pin 3 = Shield
  </td></tr>
<tr><td>REF Video</td><td>BNC Connector, Female (Not Used)</td></tr>
<tr><td>Power Connector</td><td>2-Pin Male (CPC Connector)<table><tr><th>Pin #</th><th>Function</th></tr><tr><td>1</td><td>Not Connected</td></tr><tr><td>2</td><td>+15-28V</td></tr><tr><td>3</td><td>Ground</td></tr><tr><td>4</td><td>Not Connected</td></tr></table></td></tr>
<tr><td>Diagnostic Port</td><td>9-Pin Female (D9F)<table><tr><th>Pin #</th><th>Function</th><th>Pin #</th><th>Function</th></tr><tr><td>1</td><td>DCD</td><td>6</td><td>DSR</td></tr><tr><td>2</td><td>Rxd</td><td>7</td><td>RTS</td></tr><tr><td>3</td><td>Txd</td><td>8</td><td>CTS</td></tr><tr><td>4</td><td>DTR</td><td>9</td><td>RI</td></tr><tr><td>5</td><td>Ground</td><td></td><td></td></tr></table></td></tr>
</table>

8.4 GPIO Connectors

8.4.1 GPI Specifications

General Description

GPI 1 – 16

GPI 17 – 32

4 x 37-Pin Female (D37F)

Each GPI input is isolated using an opto-isolator that requires a differential voltage across it to turn it on. This input supports positive and negative voltages, active high GPI sources, and active low GPI sources.

The GPI source must provide the differential voltage required to turn on the opto-isolator.

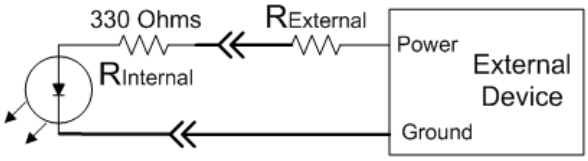
No voltage or current is supplied by the DC-100 to power the opto-isolators.

GPI Opto-isolator Input

5V - 12 V input voltage

24V use external resistor = 680 - 820 ohm

20ma MAXIMUM CURRENT



Specifications for GPI input

1. Voltage: (internal resistor only)
   - +3.3V minimum
   - +5V typical
   - +6V maximum
2. Current: (internal resistor only)
   - 5mA minimum
   - 10mA typical
   - 15mA maximum

For typical 10mA current, if external voltage is higher than +5V, a series of resistor is required:

- Rext = (Vext - 4.5) / 0.01
- Vext = +9V => Rext = 450 Ohms
- Vext = +12V => Rext = 750 Ohms
- Vext = +24V => Rext = 1950 Ohms

8.4.2 GPO specifications

General Description

(**Not Used)**

GPO 1 – 16

GPO 17 – 32

4 x 37-Pin Female (D37F)

GPO: Relay Contact Closure Output. “Dry” contact closure.

GPO Relay Contacts:

- 0.5 A @ 125VAC
- 1.0 A @ 24VDC
- 1.0 A MAXIMUM CURRENT

8.4.3 GPI Connector Table

Pin #	Function	Pin #	Function
1	Ground	20	Ground
2	GPI #1 Anode (+)	21	GPI #1 Cathode (-)
3	GPI #2 Anode (+)	22	GPI #2 Cathode (-)
4	GPI #3 Anode (+)	23	GPI #3 Cathode (-)
5	GPI #4 Anode (+)	24	GPI #4 Cathode (-)
6	GPI #5 Anode (+)	25	GPI #5 Cathode (-)
7	GPI #6 Anode (+)	26	GPI #6 Cathode (-)
8	GPI #7 Anode (+)	27	GPI #7 Cathode (-)
9	GPI #8 Anode (+)	28	GPI #8 Cathode (-)
10	Ground	29	Ground
11	GPI #9 Anode (+)	30	GPI #9 Cathode (-)
12	GPI #10 Anode (+)	31	GPI #10 Cathode (-)
13	GPI #11 Anode (+)	32	GPI #11 Cathode (-)
14	GPI #12 Anode (+)	33	GPI #12 Cathode (-)
15	GPI #13 Anode (+)	34	GPI #13 Cathode (-)
16	GPI #14 Anode (+)	35	GPI #14 Cathode (-)
17	GPI #15 Anode (+)	36	GPI #15 Cathode (-)
18	GPI #16 Anode (+)	37	GPI #16 Cathode (-)
19	Ground		

8.4.4 GPO Connector Table

Pin #	Function	Pin #	Function
1	Ground	20	Ground
2	GPO #1 COMMON	21	GPO #1 N.O.
3	GPO #2 COMMON	22	GPO #2 N.O.
4	GPO #3 COMMON	23	GPO #3 N.O.
5	GPO #4 COMMON	24	GPO #4 N.O.
6	GPO #5 COMMON	25	GPO #5 N.O.
7	GPO #6 COMMON	26	GPO #6 N.O.
8	GPO #7 COMMON	27	GPO #7 N.O.
9	GPO #8 COMMON	28	GPO #8 N.O.
10	Ground	29	Ground
11	GPO #9 COMMON	30	GPO #9 N.O.
12	GPO #10 COMMON	31	GPO #10 N.O.
13	GPO #11 COMMON	32	GPO #11 N.O.
14	GPO #12 COMMON	33	GPO #12 N.O.
15	GPO #13 COMMON	34	GPO #13 N.O.
16	GPO #14 COMMON	35	GPO #14 N.O.
17	GPO #15 COMMON	36	GPO #15 N.O.
18	GPO #16 COMMON	37	GPO #16 N.O.
19	Ground		

8.4.5 Configuring GPIs for Dry/Wet Operation

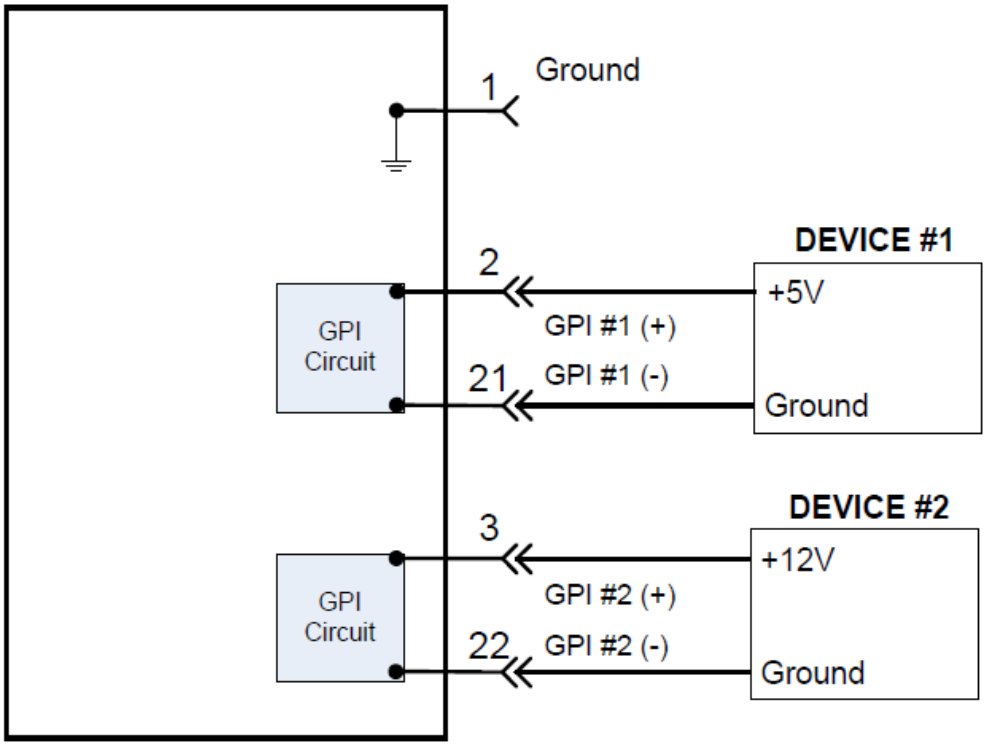
Introduction

GPIs are set to Dry operation by default.

The GPIs may be set for Wet mode using jumpers within the DC-100.

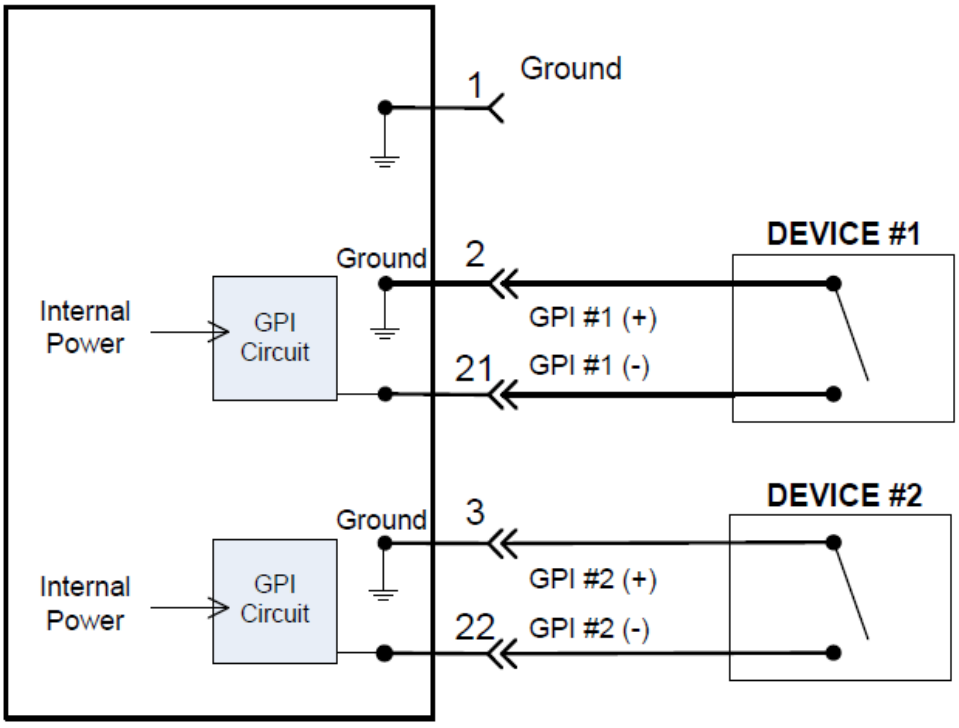
GPI Configured for Dry Operation

GPI Connector



GPI Configured for Wet Operation

GPI Connector



Procedure

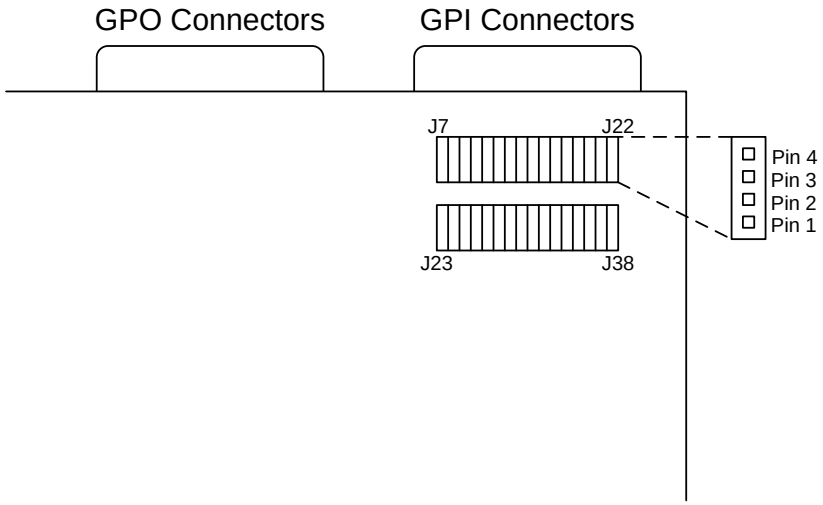
To configure the jumpers inside the DC-100:

1. Power down the DC-100.
2. Using a Phillips screwdriver, remove the top cover from the DC-100.

   To do so, you will need to remove 3 screws from each side of the unit:

   - 2 from the rear
   - 1 from the center of the front of the unit
3. The GPIO card is on the far right hand side of the unit (if facing the front panel), behind the GPIO connectors.

   The jumpers for the GPIs are directly behind the GPI connectors, labeled J7 through J38. Each set of jumpers for a GPI consists of 4 pins. See the table below for which GPI corresponds to which jumpers.



4. For Dry operation, set one jumper across pins 2 and 3.

   Hang the second jumper off of pin 1.
5. For Wet operation, set one jumper across pin 1 and 2.

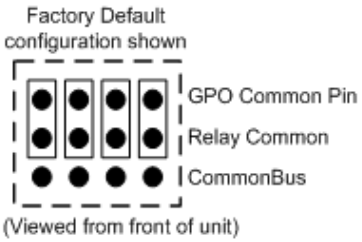
   Set the second jumper across pins 3 and 4.
6. Once all necessary changes to the jumpers have been made, refit the top cover and screws on the DC-100.

GPI	Jumper
1	J7
2	J8
3	J9
4	J10
5	J11
6	J12
7	J13
8	J14
9	J15
10	J16
11	J17
12	J18
13	J19
14	J20
15	J21
16	J22
17	J23
18	J24
19	J25
20	J26
21	J27
22	J28
23	J29
24	J30
25	J31
26	J32
27	J33
28	J34
29	J35
30	J36
31	J37
32	J38

8.4.6 Configuring GPOs for Dry/Wet Operation

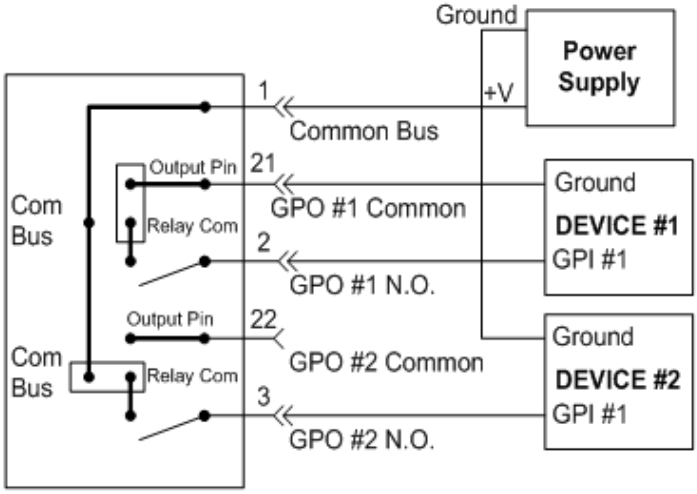
Note

The signal connected to Common Bus is isolated from DC-100 electronics & power supply.



JUMPER	GPO
J40	1
J41	2
J42	3
J43	4
J44	5
J45	6
J46	7
J47	8
J48	9
J49	10
J50	11
J51	12
J52	13
J53	14
J54	15
J55	16
J56	17
J57	18
J58	19
J59	20
J60	21
J61	22
J62	23
J63	24
J64	25
J65	26
J66	27
J67	28
J68	29
J69	30
J70	31
J71	32

EXAMPLE #1- External Power Supply to wet GPOs



EXAMPLE #2- Device supplied power to wet GPOs